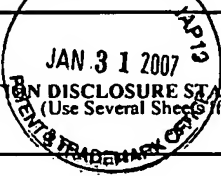


FORM PTO-1449 (Modified)				U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No.: COOL-00800		Serial No.: 10/698,180	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets if Necessary)						Applicants: Giruish Upadhy et al.			
(37 CFR § 1.98(b))						Filing Date: October 30, 2003		Group Art Unit: 3744	

U.S. PATENT DOCUMENTS							
Examiner Initials	Serial / Patent Number	Issue Date	Applicant / Patentee	Class	Subclass	Filing Date	
<div style="font-family: cursive; font-size: 1.2em;">JYC</div> <div style="font-family: cursive; font-size: 1.2em;">JYC</div>	AA	4,474,172	10/02/1984	Burke	126	449	10/25/1982
	AB	US 2004/0216863 A1	11/04/2004	Hu	165	110	04/30/2003
	AC						
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FOREIGN PATENTS OR PUBLISHED FOREIGN PATENT APPLICATIONS								
	Document Number	Publication Date	Country / Patent Office	Class	Subclass	Translation		
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	AK							
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OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)	
	AP
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Examiner: <i>JYC</i>	Date Considered: <i>April 2, 2007</i>
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Paper No. 20070131

FORM PTO-1449 (Modified) JUL 31 2006 INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets If Necessary) (37 CFR § 1.98(b))		U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No.: COOL-00800		Serial No.: 10/698,180	
				Applicants: Giruish Upadhyia et al.			
				Filing Date: October 30, 2003		Group Art Unit: 3252 3744	

U.S. PATENT DOCUMENTS							
Examiner Initials	Serial / Patent Number	Issue Date	Applicant / Patentee	Class	Subclass	Filing Date	
<i>AVC</i> ↓	AA	4,494,171	01/15/85	Bland et al.	361	386	08/24/82
	AB	5,145,001	09/08/92	Valenzuela	165	164	04/23/91
	AC	6,131,650	10/17/00	North et al.	165	170	07/20/99
	AD	6,196,307 B1	03/06/01	Ozmat	165	185	06/17/98
	AE	6,508,301 B2	01/21/03	Marsala	165	80.4	04/17/01
	AF	US 2004/0112571 A1	06/17/04	Kenny et al.	165	80.3	10/30/03
	AG	US 2005/0168949 A1	08/04/05	Tilton et al.	361	699	01/30/04
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FOREIGN PATENTS OR PUBLISHED FOREIGN PATENT APPLICATIONS								
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OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)		
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Examiner: <i>LVC</i>	Date Considered: <i>9/2/2007</i>
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered/ Include copy of this form with next communication to applicant.	

FORM PTO-1449
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U.S. Department of Commerce
Patent and Trademark Office

Attorney Docket No.: COOL-00800

Serial No.: 10/698,180

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Use Several Sheets, if Necessary)

Applicants: Girish Upadhy et al.

(37 CFR § 1.98(b))

Filing Date: October 30, 2003

Group Art Unit: ~~3752~~ 3744

U.S. PATENT DOCUMENTS

Examiner Initials		Serial / Patent Number	Issue Date	Applicant / Patentee	Class	Subclass	Filing Date
<i>LVC</i>	AA	5,564,497	10/15/96	Fukuoka et al.	165	152	11/03/95
<i>LVC</i>	AB	5,810,077	09/22/98	Nakamura et al.	165	153	02/20/97
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Examiner:

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Date Considered:

4/2/2007

EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 (Modified)		U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No.: COOL-00800	Serial No.: 10/698,180			
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets If Necessary)				Applicants: Girish Upadhy et al.				
				Filing Date: October 30, 2003		Group Art Unit: 3743 3744		
U.S. PATENT DOCUMENTS								
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FOREIGN PATENTS OR PUBLISHED FOREIGN PATENT APPLICATIONS								
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	AL	WO 01/25711 A1	04/12/01	PCT	F28F	3/04		X
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Examiner: <i>L. V. L. V. L.</i>				Date Considered: <i>9/2/2007</i>				
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.								

FORM PTO-1449
(Modified)U.S. Department of Commerce
Patent and Trademark Office

Attorney Docket No.: COOL-00800

Serial No.: 10/698,180

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Use Several Sheets If Necessary)

Applicants: Girish Upadhy et al.

(37 CFR § 1.98(b))

Filing Date: October 30, 2003

Group Art Unit: 3749
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Examiner Initials	Serial / Patent Number	Issue Date	Applicant / Patentee	Class	Subclass	Filing Date
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	Document Number	Publication Date	Country / Patent Office	Class	Subclass	Translation	
						Yes	No
<i>LV</i>	AK	JP 1-256775	10/13/89	JP	F 25 D	9/00	X
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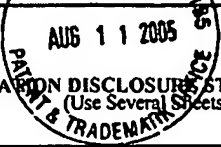
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Date Considered:

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EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 (Modified)				U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No.: COOL-00800		Serial No.: 10/698,180	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets If Necessary)									
(37 CFR § 1.98(b))				Filing Date: October 30, 2003			Group Art Unit: 3753 3744		
U.S. PATENT DOCUMENTS									
Examiner Initials	Serial / Patent Number	Issue Date	Applicant / Patentee	Class	Subclass	Filing Date			
	AA								
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FOREIGN PATENTS OR PUBLISHED FOREIGN PATENT APPLICATIONS									
		Document Number	Publication Date	Country / Patent Office	Class	Subclass	Translation		
							Yes	No	
<i>LVC</i> <i>LVC</i>	AK	JP 10-99592	04/21/98	JP	D06F	39/08		X	
	AL	JP 2001-326311	11/22/01	JP	H01L	23/427		X	
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Examiner: <i>LVC</i>				Date Considered: <i>4/2/07</i>					
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.									

FORM PTO-1449
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U.S. Department of Commerce
Patent and Trademark Office

Attorney Docket No.: COOL-00800

Serial No.: 10/698,180

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Use Separate Sheets If Necessary)

Applicants: Girish Upadhy et al.

(37 CFR § 1.98(b))

Filing Date: October 30, 2003

Group Art Unit: ~~3253~~ 3244

U.S. PATENT DOCUMENTS

Examiner Initials		Serial / Patent Number	Issue Date	Applicant / Patentee	Class	Subclass	Filing Date
AVC	AA	5,179,500	01/12/93	Koubek et al.	361	385	04/02/91
	AB						
	AC						
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EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449
(Modified)U.S. Department of Commerce
Patent and Trademark Office

Attorney Docket No.: COOL-00800

Serial No.: 10/698,180

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Applicants: Girish Upadhy et al.

(37 CFR § 1.98(b))

Filing Date: October 30, 2003

Group Art Unit: ~~2752~~ 3744

U.S. PATENT DOCUMENTS

Examiner Initials		Serial / Patent Number	Issue Date	Applicant / Patentee	Class	Subclass	Filing Date
<i>ARC</i>	AA	6,632,719 B1	10/14/03	DeBoer et al.	438	381	08/31/00
	AB						
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Examiner:

ARC

Date Considered:

4/2/07

EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 (Modified)		U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No.: COOL-00800		Serial No.: 10/698,180	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets If Necessary)				Applicants: Girish Upadhyaya et al.			
				Filing Date: October 30, 2003		Group Art Unit: 3755 3744	
FOREIGN PATENTS OR PUBLISHED FOREIGN PATENT APPLICATIONS							
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AA	97212126.9	03/04/97	CN	BO1D	61/42		X
AB	2000-277540	10/06/00	JP	H01L	21/50		X
OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)							
AC	Stephen C. Jacobson et al., "Fused Quartz Substrates for Microchip Electrophoresis", Analytical Chemistry, Vo. 67, No. 13, July 1, 1995, pages 2059-2063.						
AD	Kendra V. Sharp et al., "Liquid Flows in Microchannels", 2002, Vol. 6, pages 6-1 to 6-38.						
AE	Shuchi Shoji et al., "Microflow devices and systems", J. Microtech. Microeng. 4 (1994), pages 157-171, printed in the U.K.						
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AG	J. H. Wang et al., "Thermal-Hydraulic Characteristic of Micro Heat Exchangers", 1991, DSC-Vol. 32, Micromechanical Sensors, Actuators, and Systems, pages 331-339.						
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AI	X. F. Peng et al., "Heat Transfer Characteristics of Water Flowing through Microchannels", Experimental Heat Transfer An International Journal, Vol. 7, No. 4, October-December 1994, pages 265-283.						
AJ	Linan Jiang et al., "Forced Convection Boiling in a Microchannel Heat Sink", Journal of Microelectromechanical Systems, Vol. 10, No. 1, March 2001, pages 80-87.						
AK	Muhammad M. Rahman et al., "Experimental Measurements of Fluid Flow and Heat Transfer in Microchannel Cooling Passages in a Chip Substrate", 1993, EEP-Vol. 4-2, Advances in Electronic Packages, pages 685-692.						
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AM	Lung-Jieh Yang et al., "A Micro Fluidic System of Micro Channels with On-Site Sensors by Silicon Bulk Micromachining", September 1999, Microfluidic Devices and Systems II, Vol. 3877, pages 267-272.						
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AP	Linan Jiang et al., "A Micro-Channel Heat Sink with Integrated Temperature Sensors for Phase Transition Study", 1999, 12 th IEEE International Conference on Micro Electro Mechanical Systems, pages 159-164.						
AQ	Linan Jiang et al., "Fabrication and characterization of a microsystem for a micro-scale heat transfer study", J. Micromech. Microeng. 9 (1999) pages 422-428, printed in the U.K.						
AR	M. B. Bowers et al., "High flux boiling in low flow rate, low pressure drop mini-channel and micro-channel heat sinks", 1994, Int. J. Heat Mass Transfer, Vol. 37, No. 2, pages 321-332.						
AS	Yongendra Joshi, "Heat out of small packages", December 2001, Mechanical Engineer, pages 56-58.						
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AU	Lian Zhang et al., "Measurements and Modeling of Two-Phase Flow in Microchannels with Nearly Constant Heat Flux Boundary Conditions", Journal of Microelectromechanical Systems, Vol. 11, No. 1, February 2002, pages 12-19.						
AV	Muhammad Mustafizur Rahman, "Measurements of Heat Transfer in Microchannel Heat Sinks", Int. Comm. Heat Mass Transfer, Vol. 27, No. 4, May 2000, pages 495-506.						
AW	Issam Mudawar et al., "Enhancement of Critical Heat Flux from High Power Microelectronic Heat Sources in a Flow Channel", Journal of Electronic Packaging, September 1990, Vol. 112, pages 241-248.						
AX	Nelson Kuan, "Experimental Evaluation of Micro Heat Exchangers Fabricated in Silicon", 1996, HTD-Vol. 331, National Heat Transfer Conference, Vol. 9, pages 131-136.						
AY	E. W. Kreutz et al., "Simulation of micro-channel heat sinks for optoelectronic microsystems", Microelectronics Journal 31 (2000) pages 787-790.						
AZ	J. C. Y. Koh et al., "Heat Transfer of Microstructure for Integrated Circuits", 1986, Int. Comm. Heat Mass Transfer, Vol. 13, pages 89-98.						
BA	Snezana Konecni et al., "Convection Cooling of Microelectronic Chips", 1992, InterSociety Conference on Thermal Phenomena, pages 138-144.						
Examiner: <i>[Signature]</i>				Date Considered: 4/2/07			
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

FORM PTO-1449 (Modified)		U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No.: COOL-00800	Serial No.: 10/698,180
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets If Necessary)				Applicants: Girish Upadhy et al.	
				Filing Date: October 30, 2003	Group Art Unit <u>3749</u> 3753
(37 CFR § 1.98(b))					
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<u>AVC</u>	BB	Michael B. Kleiner et al., "High Performance Forced Air Cooling Scheme Employing Microchannel Heat Exchangers", 1995, IEEE Transactions on Components, Packaging, and Manufacturing Technology-Part A, Vol. 18, No. 4, pages 795-804.			
	BC	Jerry K. Keska Ph. D. et al., "An Experimental Study on an Enhanced Microchannel Heat Sink for Microelectronics Applications", EEP-Vol. 26-2, Advances in Electronic Packaging, 1999, Vol. 2, pages 1235-1259.			
	BD	Shung-Wen Kang et al., "The Performance Test and Analysis of Silicon-Based Microchannel Heat Sink", July 1999, Terahertz and Gigahertz Photonics, Vol. 3795, pages 259-270.			
	BE	Joseph C. Tramontana, "Semiconductor Laser Body Heat Sink", Xerox Disclosure Journal, Vol. 10, No. 6, November/December 1985, pages 379-381.			
	BF	Sarah Arulanandam et al., "Liquid transport in rectangular microchannels by electroosmotic pumping", Colloid and Surfaces A: Physicochemical and Engineering Aspects 161 (2000), pages 89-102.			
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	BJ	James P. Slupe et al., "An idea for maintaining a stable thermal environment for electronic devices", Research Disclosure, August 2001, page 1312.			
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	BL	"Thin Heat Pipe for Cooling Components on Printed Circuit Boards", IBM Technical Disclosure Bulletin, Vol. 34, No. 7B, December 1991, pages 321-322.			
	BM	R. C. Chu et al., "Process for Nucleate Boiling Enhancement", IBM Technical Disclosure Bulletin, Vol. 18, No. 7, December 1975, page 2227.			
	BN	J. Riseman, "Structure for Cooling by Nucleate Boiling", IBM Technical Disclosure Bulletin, Vol. 18, No. 11, April 1976, page 3700.			
	BO	"Integrally Grooved Semiconductor Chip and Heat Sink", October 1971, IBM Technical Disclosure Bulletin, Vol. 14, No. 5, page 1425.			
	BP	"Enhanced Cooling of Thermal Conduction Module", IBM Technical Disclosure Bulletin, Vol. 30, No. 5, October 1987, page 426.			
	BQ	"Heat Exchanger Modules for Data Process with Valves Operated by Pressure form Cooling Water Pump", IBM Technical Disclosure Bulletin, Vol. 30, No. 5, October 1987, page 419.			
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	BT	"Piping System with Valves Controlled by Processor for Heating Circuit Modules in a Selected Temperature Profile for Sealing Integrity Test Under Temperature Stress", IBM Technical Disclosure Bulletin, Vol. 30, No. 5, October 1987, page 336.			
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	BV	"Chip Cooling Device", IBM Technical Disclosure Bulletin, Vol. 30, No. 9, February 1988, pages 435-436.			
	BW	W. E. Ahearn et al., "Silicon Heat Sink Method to Control Integrated Circuit Chip Operating Temperatures", IBM Technical Disclosure Bulletin, Vol. 21, No. 8, January 1979, pages 3378-3380.			
	BX	N. P. Bailey et al., "Cooling Device for Controlled Rectifier", IBM Technical Disclosure Bulletin, Vol. 21, No. 11, April 1979, pages 4609-4610.			
	BY	W. J. Kleinfelder et al., "Liquid-Filled Bellows Heat Sink", IBM Technical Disclosure Bulletin, Vol. 21, No. 10, March 1979, pages 4125-4126.			
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	CA	A. J. Arnold et al., "Heat Sink Design for Cooling Modules in a Forced Air Environment", IBM Technical Disclosure Bulletin, Vol. 22, No. 6, November 1979, pages 2297-2298.			
	CB	A. J. Arnold, "Structure for the Removal of Heat from an Integrated Circuit Module", IBM Technical Disclosure Bulletin, Vol. 22, No. 6, November 1979, pages 2294-2296.			
	CC	U. P. Hwang et al., "Cold Plate for Thermal Conduction Module with Improved Flow Pattern and Flexible Base", IBM Technical Disclosure Bulletin, Vol. 25, No. 9, February 1983, page 4517.			
<u>✓</u>	CD	K. C. Gallagher et al., "Cooling System for Data Processor with Flow Restrictor in Secondary Loop to Limit Bypass-Cooling Water Flow", IBM Technical Disclosure Bulletin, Vol. 26, No. 5, October 1983, page 2658.			
Examiner: <u>AVC</u>		Date Considered: <u>4/2/07</u>			
EXAMINER:		Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets If Necessary)				Applicants: Girish Upadhyaya et al.	
				Filing Date: October 30, 2003	Group Art Unit: 5744 5755
(37 CFR § 1.98(b))					
OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)					
ARC	CE	R. C. Chu et al., "Silicon Heat Sink for Semiconductor Chip", IBM Technical Disclosure Bulletin, Vol. 24, No. 11A, April 1982, page 5743.			
	CF	J. M. Eldridge et al., "Heat-Pipe Vapor Cooling Etched Silicon Structure", IBM Technical Disclosure Bulletin, Vol. 25, No. 8, January 1983, pages 4118-4119.			
	CG	J. R. Skobern, "Thermoelectrically Cooled Module", IBM Technical Disclosure Bulletin, Vol. 27, No. 1A, June 1984, page 30.			
	CH	M. J. Brady et al., "Etched Silicon Integrated Circuit Heat Sink", IBM Technical Disclosure Bulletin, Vol. 27, No. 1B, June 1984, page 627.			
	CI	H. D. Edmonds et al., "Heat Exchange Element for Semiconductor Device Cooling", IBM Technical Disclosure Bulletin, Vol. 23, No. 3, August 1980, page 1057.			
	CJ	R. W. Noth, "Heat Transfer from Silicon Chips and Wafers", IBM Technical Disclosure Bulletin, Vol. 17, No. 12, May 1975, page 3544.			
	CK	"Forced Boiling Cooling System with Jet Enhancement for Critical Heat Flux Extension", IBM Technical Disclosure Bulletin, Vol. 39, No. 10, October 1996, page 143.			
	CL	"Miniature Heat Exchanger for Corrosive Media", IBM Technical Disclosure Bulletin, Vol. 38, No. 01, January 1995, pages 55-56.			
	CM	"Self-Contained Active Heat Dissipation Device", IBM Technical Disclosure Bulletin Vol. 39, No. 04, April 1996, pages 115-116.			
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Examiner:		Date Considered:		4/2/07	
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FORM PTO-1449
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Attorney Docket No.: COOL-00800

Serial No.: 10/698,180

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
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Applicants: Girish Upadhyaya et al.

Filing Date: October 30, 2003

Group Art Unit: 3789
3753

(37 CFR § 1.98(h))

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Examiner:

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets If Necessary)				Applicants: Girish Upadhy et al.				
				Filing Date: October 30, 2003		Group Art Unit: <u>3344</u>		
(37 CFR § 1.98(b))								
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Attorney Docket No.: COOL-00800

Serial No.: 10/698,180

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
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Applicants: Girish Upadhyaya et al.

Filing Date: October 30, 2003

Group Art Unit: 3749
2753

(37 CFR § 1.98(b))

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ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

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Title of Invention

OPTIMAL SPREADER SYSTEM, DEVICE AND METHOD FOR
FLUID COOLED MICRO-SCALED HEAT EXCHANGE

Application Number : 10/698180



Confirmation Number: 9903

First Named Applicant: Girish Upadhy

Attorney Docket Number:

Art Unit:

Examiner:

Search string: (4203448 or 4235285 or 4345267 or 4716494 or 4978638 or 5397919 or 5886870
or 6021045 or 6347036 or 6449157 or 6449162 or 6459582).pn

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US Patent Documents

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init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
✓	1	4203448	1980-05-20	Johnson et al.			
✓	2	4235285	1980-11-25	Johnson et al.			
✓	3	4345267	1982-08-17	Corman et al.			
✓	4	4716494	1987-12-29	Bright et al.			
✓	5	4978638	1990-12-18	Buller et al.			
✓	6	5397919	1995-03-14	Tata et al.			
✓	7	5886870	1999-03-23	Omori			
✓	8	6021045	2000-02-01	Johnson			
✓	9	6347036	2002-02-12	Yeager et al.	B1		
✓	10	6449157	2002-09-10	Chu	B1		
✓	11	6449162	2002-09-10	Corbin, Jr. et al.	B1		
✓	12	6459582	2002-10-01	Ali et al.	B1		

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First Named Applicant: Girish Upadhya

Attorney Docket Number:

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init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
ARC	1	2039593	1936-05-05	T. N. Hubbuch et al.		—	—
I	2	4574876	1986-03-11	Aid		—	—
	3	6206022	2001-03-27	Tsai et al.	B1	—	—
	4	6253835	2001-07-03	Chu et al.	B1	—	—
V	5	6437981	2002-08-20	Newton et al.	B1	—	—

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Examiner Name	Date
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First Named Applicant: Girish Upadhya

Attorney Docket Number:

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init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
✓	1	6438984	2002-08-27	Novotny et al.	B1	—	—
✓	2	6581388	2003-06-24	Novotny et al.	B2	—	—
✓	3	6587343	2003-07-01	Novotny et al.	B2	—	—

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First Named Applicant: Girish Upadhya



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US Patent Documents

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init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
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<i>AK</i>	2	6167948	2001-01-02	Thomas	B1	—	—
<i>AK</i>	3	6606251	2003-08-12	Kenny, Jr. et al.	B1	—	—

US Published Applications

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init	Cite.No.	Pub. No.	Date	Applicant	Kind	Class	Subclass
<i>AK</i>	1	20030062149	2003-04-03	Goodson et al.	A1	—	—

Signature

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<i>AK</i>	4/2/07

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Search string: (0596062 or 2273505 or 4211208 or 6397932 or 20020075645).pn



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<i>J</i>	2	2273505	1942-02-17	R. R. Florian		—	—
<i>J</i>	3	4211208	1980-07-08	Lindner		—	—
<i>J</i>	4	6397932	2002-06-04	Calaman et al.	B1	—	—

US Published Applications

Note: Applicant is not required to submit a paper copy of cited US Published Applications

init	Cite.No.	Pub. No.	Date	Applicant	Kind	Class	Subclass
<i>AK</i>	1	20020075645	2002-06-20	Kitano et al.	A1	—	—

Signature

Examiner Name	Date
<i>AVI mic</i>	<i>4/2/07</i>

ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

Title of Invention

OPTIMAL SPREADER SYSTEM, DEVICE AND METHOD FOR
FLUID COOLED MICRO-SCALED HEAT EXCHANGE

Application Number : 10/698180



Confirmation Number: 9903

First Named Applicant: Girish Upadhya

Attorney Docket Number:

Art Unit:

Examiner:

Search string: (3361195 or 3771219 or 4644385 or 4893174 or 5386143 or 5658831 or 5675473 or 6140860 or 6477045 or 6492200 or 6578626).pn

Certification: This Information Disclosure Statement was submitted under the following conditions, which satisfies the requirement under 37 CFR 1.97(e). The filer certified:

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement.

US Patent Documents

Note: Applicant is not required to submit a paper copy of cited US Patent Documents

init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
✓	1	3361195	1968-01-02	A. Meyerhoff et al.		—	—
✓	2	3771219	1973-11-13	Tuzi et al.		—	—
✓	3	4644385	1987-02-17	Nakanishi et al.		—	—
✓	4	4893174	1990-01-09	Yamada et al.		—	—
✓	5	5386143	1995-01-31	Fitch		—	—
✓	6	5658831	1997-08-19	Layton et al.		—	—
✓	7	5675473	1997-10-07	McDunn et al.		—	—
✓	8	6140860	2000-10-31	Sandhu et al.		—	—
✓	9	6477045	2002-11-05	Wang	B1	—	—
✓	10	6492200	2002-12-10	Park et al.	B1	—	—
✓	11	6578626	2003-06-17	Calaman et al.	B1	—	—

Signature

AKinc 4/2/07

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US Patent Documents

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init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
✓	1	5043797	1991-08-27	Lopes		—	—
✓	2	5490117	1996-02-06	Oda et al.		—	—
✓	3	5740013	1998-04-14	Roesner et al.		—	—
✓	4	5768104	1998-06-16	Salmonson et al.		—	—
✓	5	5921087	1999-07-13	Bhatia et al.		—	—
✓	6	6366467	2002-04-02	Patel et al.	B1	—	—
✓	7	6459581	2002-10-01	Newton et al.	B1	—	—
✓	8	6600220	2003-07-29	Barber et al.	B2	—	—
✓	9	6743664	2004-07-01	Liang et al.	B2	—	—

US Published Applications

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init	Cite.No.	Pub. No.	Date	Applicant	Kind	Class	Subclass
<i>AVC</i>	1	20020121105	2002-09-05	McCarthy, Jr. et al.	A1	<i>—</i>	<i>—</i>
<i>/</i>	2	20030121274	2003-07-03	Wightman	A1	<i>—</i>	<i>—</i>
<i>/</i>	3	20040040695	2004-03-04	Chesser et al.	A1	<i>—</i>	<i>—</i>
<i>/</i>	4	20040052049	2004-03-18	Wu et al.	A1	<i>—</i>	<i>—</i>
<i>/</i>	5	20040089008	2004-05-13	Tilton et al.	A1	<i>—</i>	<i>—</i>
<i>/</i>	6	20040125561	2004-07-01	Gwin et al.	A1	<i>—</i>	<i>—</i>
<i>/</i>	7	20040160741	2004-08-19	Moss et al.	A1	<i>—</i>	<i>—</i>
<i>/</i>	8	20040188069	2004-09-30	Tomioka et al.	A1	<i>—</i>	<i>—</i>

Signature

Examiner Name	Date
<i>AVC</i>	<i>4/2/07</i>



ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18
Stylesheet Version v18.0

Title of Invention	OPTIMAL SPREADER SYSTEM, DEVICE AND METHOD FOR FLUID COOLED MICRO-SCALED HEAT EXCHANGE																																														
<p>Application Number: 10/698180</p> <p>Confirmation Number: 9903</p> <p>First Named Applicant: Girish Upadhya</p> <p>Attorney Docket Number:</p> <p>Search string: (3948316 or 4467861 or 4574876 or 4884630 or 4903761 or 5016090 or 5161089 or 5179500 or 5228502 or 5239443 or 5265670 or 5269372 or 5275237 or 5310440 or 5346000 or 5388635 or 5945217 or 5978220 or 5993750 or 6019165 or 6034872 or 6039114 or 6253832 or 6257320 or 6330907 or 6336497 or 6366462 or 6367544 or 6431260 or 6466442 or 6519151 or 6533029 or 6536516 or 6601643 or 6609560 or 6651735 or 6729383 or 20030213580).pn.</p> <p><u>Certification:</u> This Information Disclosure Statement was submitted under the following conditions, which satisfies the requirement under 37 CFR 1.97(e). The filer certified:</p> <p>That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement.</p> <p>US Patent Documents</p> <p>Note: Applicant is not required to submit a paper copy of cited US Patent Documents</p> <table border="1"><thead><tr><th>init</th><th>Cite.No.</th><th>Patent No.</th><th>Date</th><th>Patentee</th><th>Kind</th><th>Class</th><th>Subclass</th></tr></thead><tbody><tr><td>✓</td><td>1</td><td>3948316</td><td>1976-04-06</td><td>Souriau</td><td></td><td></td><td></td></tr><tr><td>✓</td><td>2</td><td>4467861</td><td>1984-08-28</td><td>Kiseev et al.</td><td></td><td></td><td></td></tr><tr><td>✓</td><td>3</td><td>4574876</td><td>1986-03-11</td><td>Aid</td><td></td><td></td><td></td></tr><tr><td>✓</td><td>4</td><td>4884630</td><td>1989-12-05</td><td>Nelson et al.</td><td></td><td></td><td></td></tr></tbody></table>								init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass	✓	1	3948316	1976-04-06	Souriau				✓	2	4467861	1984-08-28	Kiseev et al.				✓	3	4574876	1986-03-11	Aid				✓	4	4884630	1989-12-05	Nelson et al.			
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✓	5	4903761	1990-02-27	Cima	
	6	5016090	1991-05-14	Galyon et al.	
	7	5161089	1992-11-03	Chu et al.	
	8	5179500	1993-01-12	Koubek et al.	
	9	5228502	1993-07-20	Chu et al.	
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	16	5388635	1995-02-14	Gruber et al.	
	17	5945217	1999-08-31	Hanrahan	
	18	5978220	1999-11-02	Frey et al.	
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	21	6034872	2000-03-07	Chrysler et al.	
	22	6039114	2000-03-21	Becker et al.	
	23	6253832	2001-07-03	Hallefalt	B1
	24	6257320	2001-07-10	Wargo	B1
	25	6330907	2001-12-18	Ogushi et al.	B1
	26	6336497	2002-01-08	Lin	B1
	27	6366462	2002-04-02	Chu et al.	B1
	28	6367544	2002-04-09	Calaman	B1
	29	6431260	2002-08-13	Agonafer et al.	B1
	30	6466442	2002-10-15	Lin	B2
	31	6519151	2003-02-11	Chu et al.	B2
	32	6533029	2003-03-18	Phillips	B1
	33	6536516	2003-03-25	Davies et al.	B2
	34	6601643	2003-08-05	Cho et al.	B2
	35	6609560	2003-08-26	Cho et al.	B2
	36	6651735	2003-11-25	Cho et al.	B2
✓	37	6729383	2004-05-04	Cannell et al.	B1

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init	Cite.No.	Pub. No.	Date	Applicant	Kind	Class	Subclass
<i>AC</i>	1	20030213580	2003-11-20	Philpott et al.	A1		

Signature

Examiner Name	Date
<i>AKC</i>	<i>4/2/2007</i>